

PROJECT TITLE : PROTAGORAS
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TOBACCO EXTRACTION

The ØS - B - TOT blend was extracted with water and subsequently with KOH, as described in the previous monthly report. In order to increase the extraction of proteins, a protease treatment was added.

As the tobacco has quite a high pH after the KOH treatment, an enzyme had to be found that also shows an optimal activity at high pH-values. Pronase (Boehringer, Mannheim) shows this characteristic.

In this protease treatment, 10 g of tobacco was extracted in a ratio of 1 : 10 with water in the presence of 30 mg of pronase at 37°C for 3 hours. With this enzyme extraction it was possible to solubilize at least 30% of the initial tobacco proteins.

PROTEASE PRODUCTION

The following strains were screened for protease production :

Bacillus licheniformis
Streptomyces albus
Bacillus amyloliquefaciens
Bacillus sp.
Cryptococcus maurans

All these strains produce protease in a complex medium. The cultivation of these strains is in progress.

These proteases will be partially purified and tested for use in tobacco protein extraction. When positive results are obtained the enzyme production will be optimized.

REFERENCE

(1) Notebook, Mangilli M.-F. No. 80 - 08.05.

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